

CALYMENE VARIOLARIS BRONGNIART, 1822 (TRILOBITA) : PROPOSED USE OF THE PLENARY POWERS TO DESIGNATE A NEOTYPE IN HARMONY WITH CURRENT USE. Z.N.(S.) 2189.

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The object of the present application is to ask the International Commission on Zoological Nomenclature to use its Plenary Powers to designate the specimen figured by Murchison in 1839 (: 655, pl. 14, fig. 1) as neotype of *Calymene variolaris* Brongniart, 1822 (: 14-15, pl. 1, figs. 3a-c).

History of the case

1. Brongniart in 1822 (: 14-15, pl. 1, figs. 3a-c) figured two trilobites under the name *Calymene variolaris*. Pl. 1, fig. 3a is of an extended dorsal shield of an encrinurid with fixigenal spine clearly visible. Fig. 3b is a right lateral view of an enrolled dorsal shield: that it belongs to the suborder Phacopina and not to the family ENCRINURIDAE is indicated by the large eye, in which the lenses are distinguishable. Fig. 3c is an enlargement of the lenses of the eye of the same specimen as fig. 3b. Brongniart's diagnosis ends "angulis externo-posticis in mucrone productis". The description states "sur leur angle extérieure une sorte d'appendice qui se prolonge sur les côtés de l'abdomen, jusque vers la sixième articulation".

2. Murchison in 1839 (: 655, pl. 14, fig. 1) figured a dorsal exoskeleton of a trilobite under the name *Calymene variolaris* Brong. (var. ?) pointing out that it differed from Brongniart's figure [3a] in lacking what would now be called fixigenal spines, and stating that it might represent a distinct form.

3. Burmeister in 1846 (: 114) restricted Brongniart's *variolaris* to his figures 3a, c only (although these do not represent the same species) and quoted Murchison's pl. 14, fig. 1 in synonymy. Further on (p. 115) he wrote "I propose, however, to retain the name of *Calymene variolaris* for Murchison's species so-called, this being probably distinct; but I shall transfer the still older name *C. punctata* to the *Calym. variolaris* of Brongniart, which at an earlier period was certainly known by that name".

4. Salter in 1848 explicitly referred Brongniart's fig. 3b (not 3a) and Murchison's pl. 14, fig. 1 to *Cybele variolaris* (Brongniart).

5. Fletcher in 1850 (: 403-404) listed Brongniart's pl. 1, fig. 3a in the synonymy of '*Cybele punctata* Wahlenberg', and Brongniart's fig. 3b in the synonymy of '*Cybele variolaris* Brongniart, sp.'.

6. All subsequent authors have applied the name *variolaris* to the encrinurine species represented by Murchison's pl. 14, fig. 1, even though the species was not figured by Brongniart. No lectotype or neotype of *variolaris* has yet been designated.

7. Brongniart's pl. 1, fig. 3a is from a drawing by [Charles] Stokes of a Dudley specimen in the Johnson Collection but the specimen is now not to be

found in any of the museums known to hold parts of this collection. Brongniart himself stated that he did not know the whereabouts of the original of his figs. 3b, c.

8. The species figured in Brongniart's pl. 1, fig. 3a was re-figured by Buckland in 1836 (p. 74, pl. 46, fig. 6) and named *Asaphus tuberculatus*. This figure probably represents Brongniart's specimen. *Encrinurus tuberculatus* (Buckland) has been recognised by Tripp (1962, p. 467) as a valid name for a species in the group of *Encrinurus punctatus* (Wahlenberg, [1818]) (for the suppression of *Trilobus punctatus* Brünnich, 1781, and the validation of Wahlenberg's specific name, see Opinion 537, *Ops. Decls. int. Comm. zool. Nomencl.* vol. 20 : 41-56).

9. If Brongniart's species were to be restricted to his fig. 3a (a procedure that would be in accordance with Brongniart's original interpretation as indicated by his diagnosis) the name *variolaris* would apply to a different encrinurine species from that for which it has been used for over a century, and Buckland's name would become a junior objective synonym.

10. If, on the other hand, Brongniart's species were to be restricted to his figs. 3b, c the name *variolaris* would apply to an unidentified member of the Phacopina.

11. The trilobite to which the name *Encrinurus variolaris* (sensu Murchison) has been applied is the well known "strawberry-headed" trilobite of Dudley, familiar to the early collectors, and widely represented in museum collections. The following is a selection of references in the literature:

- 1846 *Calymene variolaris* Brongn.; Burmeister, pp. 114-115.
- 1848 *Cybele variolaris* Brongniart (part); Salter, p. 344.
- 1850 *Cybele variolaris* Brongniart sp.; Fletcher, pp. 404-405, pl. 32, figs. 6-10.
- 1851 *Zethus variolaris* Brong. sp. : M'Coy, pp. 157-158.
- 1853 *Encrinurus variolaris* Brong. sp.; Salter, p. 7, pl. 4, figs. 13, 14.
- 1871 *Encrinurus variolaris* Brongniart; Baily, pp. 67-68, pl. 23, fig. 3.
- 1878 *Cryptonymus variolaris* Brongniart; Vogdes, p. 21, pl. 1, figs. 6-10; pl. 3, figs. 13, 14 (reproductions of Salter 1853, pl. 4, figs. 13, 14).
- 1884 *Encrinurus variolaris*; La Touche, pl. 10, fig. 253.
- 1907 *Cryptonymus variolaris* Brongn.; Vogdes, p. 74, pl. figs. 1-9, non fig. 10 (figs. 1-4, 7-9 reproductions of Fletcher 1850; figs. 5-6 of Salter 1853).
- 1917 *Cryptonymus variolaris*; Vogdes, pl. 3, figs. 1-9 (reproduction of Vogdes 1907, pl. 3).
- 1954 *Encrinurus variolaris* (Brongniart); Temple, pp. 315-318, text-figs. 1, 2.
- 1962 *Encrinurus variolaris* (Brongniart); Tripp, pl. 65, figs. 17-20.
- 1972 *Encrinurus* (*Frammia*) *variolaris* (Brongniart, 1822); Schrank, pl. 13, fig. 8.
- 1973 *Encrinurus variolaris* (Brongniart 1822); Clarkson and Henry, pp. 123-125 figs. 12-16.

12. In order to avoid the necessity for a change in current nomenclature, we recommend that the specimen figured by Murchison as *Calymene variolaris* Brong. (var.?) be designated as neotype of *Calymene variolaris* Brongniart, 1822. Since Murchison's specimen is clearly not conspecific with either of Brongniart's syntypes of *Calymene variolaris* it is necessary for Plenary Powers

to be invoked for validation of this designation. Murchison's specimen is now preserved in Birmingham University Museum under the number BU 55. It is from the Much Wenlock Limestone Formation of Dudley, and is figured in a paper submitted to the journal *Palaeontology* by the authors of this application. A label has been affixed to the specimen stating that it has been selected as the neotype of *Calymene variolaris* Brongniart, 1822, and that the International Commission on Zoological Nomenclature has been asked to validate this selection under its Plenary Powers.

13. In the light of the foregoing, the International Commission on Zoological Nomenclature is asked:-
 - (1) to use its plenary powers to rule that *Calymene variolaris* Brongniart, 1822, is to be interpreted by reference to the neotype specimen designated above;
 - (2) to place the specific name *variolaris* Brongniart, 1822, as published in the binomen *Calymene variolaris*, on the Official List of Specific Names in Zoology, with an endorsement that the neotype of the species is the specimen designated above.

REFERENCES

- BAILY, W.H. 1871. *Figures of characteristic British fossils (Palaeozoic Division), with descriptive remarks*, Part 3. London
- BRONGNIART, A. 1822. *Histoire naturelle des Crustacés fossiles...Les Trilobites*. Paris, 154 pp.
- BUCKLAND, W. 1836 *Geology and mineralogy considered with reference to natural theology*. Bridgewater Treatise 2, London, 128 pp.
- BURMEISTER, H. 1846. *The organization of trilobites deduced from their living affinities: with a Systematic Review of the Species hitherto described*. Ray Society, London, x + 136 pp.
- CLARKSON, E.N.K., and HENRY, J.-L. 1973. Structures coaptives et enroulement chez quelques Trilobites ordoviciens et siluriens. *Lethaia* vol. 6 : 105-132, figs. 1-16.
- FLETCHER, T.W. 1850. Observations on Dudley Trilobites. Part 2. *Quart. J. geol. Soc.* vol. 6 : 402-405
- LA TOUCHE, J.D. 1884. *A handbook of the Geology of Shropshire*. London.
- M'COY, F. 1851. *Systematic description of the British Palaeozoic Fossils in the Geological Museum of the University of Cambridge*. Fasc. 1.
- MURCHISON, R.I. 1839. *The Silurian System*. London, xxxii + 768 pp.
- SALTER, J.W. 1848. Palaeontological Appendix. *Mem. geol. Surv. U.K.* vol. 2, (1) : 331-352.
- 1853. Figures and Descriptions illustrative of British organic remains, Decade 7. *Mem. geol. Surv. U.K.*
- SCHRANK, E. 1972. Proetacea, Encrinuridae und Phacopina (Trilobita) aus silurischen Geschieben. *Geologie* vol. 21 : 1-117.
- TEMPLE, J.T. 1954. The Hypostome of *Encrinurus variolaris* and its Relation to the Cephalon. *Geol. Mag.* vol. 91 : 315-318.
- TRIPP, R.P. 1962. The Silurian trilobite *Encrinurus punctatus* (Wahlenberg) and allied species. *Palaeontology* vol. 5 : 460-477.
- VOGDES, A.W. 1878. *A monograph on the genera Zethus, Cybele, Encrinurus and Cryptonymus*. Charleston. 35 pp.
- 1907. The genus *Encrinurus*; Its History, Its Species, Its Proper Division in the Family of Trilobites. *Trans. San Diego Soc. Nat. Hist.* vol. 1: 61-83.
- 1917. Palaeozoic Crustacea - The publications and notes on the genera and species during the past twenty years, 1895-1917. *Trans. San Diego Soc. Nat. Hist.* vol. 3:1-141